UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,518	10/07/2003	Louis Gerber	BOV1-36182	5030

116 7590 11/05/2008

PEARNE & GORDON LLP
1801 EAST 9TH STREET
SUITE 1200
CLEVELAND, OH 44114-3108

EXAMINER	
GUZMAN, APRIL S	

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
11/05/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/680,518	GERBER ET AL.	
	Examiner	Art Unit	
	APRIL S. GUZMAN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 May 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/21/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The Examiner acknowledges the receipt of the Applicant's amendment filed on 07/28/2008. Claims 1-10 has been amended. **Claims 1-11** are still currently pending in the present application.

Response to Arguments

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to claim 11 have been fully considered but they are not persuasive.

Regarding claim 11, Applicant argues that the battery pack 10 is neither "interchangeably operatively connected" in relation to the Bluetooth device nor "for recharging the rechargeable battery." Lee teaches the connector 13 connects the electronic device such as a hands free device such as a Bluetooth (read as receiver module) to the cellular phone for data communication between them (column 1 lines 55-58 and column 2 lines 40-56). Furthermore, Lee also teaches when the power of the battery 11 is consumed, the battery pack 10 is recharged by a cellular phone charger (read as charging module) (column 3 lines 5-10). Therefore, the Examiner has maintained the rejection of claim 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Goldenberg et al. (U.S. Patent # 5,966,639)** herein referred to as Goldenberg, in view of **Orten (WO 2003/056875 A1)**, and further in view of **Tom (U.S. Patent # 6,690,947)**.

Consider **claim 1**, Goldenberg teach an assistive listening device (column 1 lines 5-15, and column 3 lines 40-65) comprising:

a wireless microphone adapted to be carried by an individual (read as talker units 105 and 107), comprising a microphone element for receiving audio signals from sound sources (read as

attendant microphones), a radio transmitter for transmitting radio signals to a hearing aid carried by another individual who is located remote from the wireless microphone (read as one or more channel A receivers 170 wherein these receivers are designed to operate from a conventional subminiature hearing aid battery, small enough to fit entirely within the ear), and an antenna operatively connected to the radio transmitter (read as transmit antennas 110) (column 4 lines 14-33 and column 4 lines 49-62).

However, Goldenberg fail to teach wherein the wireless microphone comprises at least one coupling element for detachably fixing one of various interchangeable functional modules to the wireless microphone, said coupling element comprising electrical contacts for electrically connecting the interchangeable functional module to the wireless microphone when the interchangeable functional module is fixed to the wireless microphone by means of said coupling element.

In the related art, Orten teaches wherein the wireless microphone comprises at least one coupling element (read as contact pins 17) for detachably fixing a module (read as base module 9) to the wireless microphone, said coupling element comprising electrical contacts (read as contact pins 17) for electrically connecting the module to the wireless microphone when the module is fixed to the wireless microphone by means of said coupling element (Figure 4, Figure 5, page 5 lines 17-21, page 5 lines 29-33, and page 6 lines 1-21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Orten into the teachings of Goldenberg for the purpose of changing certain characteristics of the microphone for specific functions chosen by the user.

However, Goldenberg as modified by Orten fail to teach wherein the interchangeable functional modules are communication modules for providing the assistive listening device with wireless communications over a plurality of networks, each including a module antenna for transmitting and receiving wireless communications over a network, and wherein each communication module is adapted to communicate over a different network.

In the related art Tom teaches one of various interchangeable functional modules (read as one or more modular cartridges 14A and B) and wherein the interchangeable functional modules are communication modules for providing wireless communications over a plurality of networks (read as separate cartridges 14A and B may support the operation of different cellular network standards and radio frequencies around the world including AMPS, GSM or any other wireless system or protocol) (column 11 lines 25-32), each including a module antenna for transmitting and receiving wireless communications over a network (read as the cartridge may also include an antenna to support one or more wireless communication systems) (column 13 lines 8-12), and wherein each communication module is adapted to communicate over a different network (read as separate cartridges 14A and B may support the operation of different cellular network standards and radio frequencies around the world including AMPS, GSM or any other wireless system or protocol) (column 11 lines 25-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Tom into the teachings of Goldenberg as modified by Orten for the purpose of providing a wireless communication system with modular electronic components selected for operation within multiple systems wherein the units may be configured for removable connection to a variety of cartridges to provide a versatile

communication device and varying degrees of flexibility including the selection of a different features and compatible operation within different wireless systems.

Consider **claim 2, as applied to claim 1 above**, Goldenberg as modified by Orten and further modified by Tom further teach wherein the coupling element constitutes a bidirectional electrical interface between the wireless microphone and the interchangeable functional module fixed to the wireless microphone (Orten – page 6 lines 1-8 and lines 18-21).

Consider **claim 3, as applied to claim 1 above**, Goldenberg as modified by Orten and further modified by Tom further teach wherein the coupling element is designed to fix the interchangeable functional module to the wireless microphone by mating with a coupling element of the interchangeable functional module (Orten –page 6 lines 1-8).

Consider **claim 4, as applied to claim 1 above**, Goldenberg as modified by Orten and further modified by Tom further teach wherein electronic modules of the wireless microphone are connected to one or more of the electrical contacts for bidirectional exchange of electrical signals between said electronic modules and the interchangeable functional module fixed to the wireless microphone (Orten –page 6 lines 1-8).

Consider **claim 5, as applied to claim 1 above**, Goldenberg as modified by Orten and further modified by Tom further teach wherein the wireless microphone comprises an electronic control module (read as base module 9 which contains the processor equipment), said electronic control module being connected to one or more of the electrical contacts for exchanging electrical control signals with the interchangeable functional module fixed to the wireless microphone (Orten – page 6 lines 1-21).

Consider **claim 6, as applied to claim 5 above**, Goldenberg as modified by Orten and further modified by Tom further teach wherein the wireless microphone comprises operating elements (read as circuitry devices), said operating elements being connected to the control module, and said control module being designed for transferring electrical control signals to the interchangeable functional module fixed to the wireless microphone in response to operation of said operating elements (Orten – page 6 lines 1-21).

Consider **claim 7, as applied to claim 1 above**, Goldenberg as modified by Orten and further modified by Tom further teach wherein the wireless microphone comprises an electronic audio processing module (read as processor equipment), said electronic audio processing module being connected to one or more of the electrical contacts for exchanging electrical audio signals with the interchangeable functional module fixed to the wireless microphone (Orten – page 6 lines 1-21).

Consider **claim 8, as applied to claim 1 above**, Goldenberg as modified by Orten and further modified by Tom further teach wherein the wireless microphone comprises an electronic audio processing module (read as processor equipment), said electronic audio processing module being connected to one or more of the electrical contacts for exchanging electrical audio signals with the interchangeable functional module fixed to the wireless microphone (Orten – page 6 lines 1-21).

Consider **claim 9, as applied to claim 1 above**, Goldenberg as modified by Orten and further modified by Tom further teach wherein the radio transmitter is connected to one or more of the electrical contacts for exchanging electrical signals with the interchangeable functional module fixed to the wireless microphone (Orten – page 6 lines 1-8 and lines 18-21).

Consider **claim 10, as applied to claim 1 above**, Goldenberg as modified by Orten and further modified by Tom further teach wherein the wireless microphone comprises a power source module, said power source module being connected to one or more of the electrical contacts for supplying power to the interchangeable functional module fixed to the wireless microphone and/or for receiving power from the interchangeable functional module fixed to the wireless microphone (read as the service-specific microcontroller 114 may be positioned within the cartridge portion 116 and control substantial portion of the interaction between various subsystems such as controlling the battery) (Tom – Figure 11, column 26 lines 54-67, and column 27 – lines 1-6).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Orten (WO 2003/056875 A1)** in view of **Anderson (U.S. Patent # 5,721,783)**, and further in view of **Lee (U.S. Patent # 6,526,287)**.

Consider **claim 11**, Orten teaches a wireless microphone (read as microphone 1), a microphone element for receiving audio signals from sound sources, a radio transmitter (read as radio unit 14 wherein the radio unit 14 then has the capability both of transmission and reception) for transmitting radio signals, and an antenna operatively connected to the radio transmitter (read as antenna 15) (Figure 4, Figure 5, page 5 lines 29-33, and page 6 lines 1-21),

wherein the wireless microphone comprises a coupling element (read as contact pins 17) for detachably fixing a module (read as base module 9) to the wireless microphone, said coupling element comprising electrical contacts (read as contact pins 17) for electrically connecting the module to the wireless microphone when the module is fixed to the wireless microphone by

means of said coupling element (Figure 4, Figure 5, page 5 lines 17-21, page 5 lines 29-33, and page 6 lines 1-21).

However, Orten fails to teach carrying audio signals to a hearing aid, a rechargeable battery for powering the wireless microphone, wherein said interchangeable functional modules include: a receiver module for receiving wireless communications from a remote device that is remote from both the wireless microphone and the hearing aid; and a charging module for recharging the rechargeable battery, wherein the receiver module and the charging module can be interchangeable operatively connected to the wireless microphone through said coupling element.

In the related art, Anderson teaches carrying audio signals to a hearing aid (read as the output of the signal enhancer 26 is connected to the input of the RPU FM transmitter 27, which is tuned to the earpiece headset 21 receiver frequency F2 wherein the RPU FM transmitter 27 may be a wireless microphone) (column 3 lines 52-67, column 4 lines 1-14, and column 4 lines 62-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Anderson into the teachings of Orten for the purpose of providing a remote processor unit that wirelessly receives signals from and transmits signals to the earpiece of a hearing aid and to provide a new and useful auditory aid for hearing impaired persons by removing audio signal enhancement functions from the earpiece and placing them in the RPU.

However, Orten as modified by Anderson fail to teach a rechargeable battery for powering the wireless microphone, wherein said interchangeable functional modules include: a

receiver module for receiving wireless communications from a remote device that is remote from both the wireless microphone and the hearing aid; and a charging module for recharging the rechargeable battery, wherein the receiver module and the charging module can be interchangeable operatively connected to the wireless microphone through said coupling element.

In the related art Lee teach a rechargeable battery (read as battery 11) for powering the wireless microphone, wherein said interchangeable functional modules include: a receiver module (read as electronic device is a Bluetooth) for receiving wireless communications from a remote device that is remote from both the wireless microphone and the hearing aid (column 1 lines 55-58, and column 4 lines 15-19); and a charging module (read as cellular phone charger) for recharging the rechargeable battery, wherein the receiver module and the charging module can be interchangeable operatively connected to the wireless microphone through said coupling element (read as electronic device such as a Bluetooth is attached or detached conveniently from connector 13 and when power of the battery 11 is consumed, the battery pack 10 is recharged by a cellular phone charger that is attached or detached when needed) (column 1 lines 55-58, column 2 lines 1-4, column 2 lines 40-56, column 3 lines 5-10, and column 3 lines 32-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Lee into the teachings of Orten as modified by Anderson for the purpose of providing an electronic device such as an MP3 player, a personal information communication device, a Bluetooth or a memory card that is attachable or detachable through connectors from a battery pack that is capable of repetitive recharging.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: see PTO-892 Notice of References Cited.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April S. Guzman whose telephone number is 571-270-1101. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/April S. Guzman/
Examiner, Art Unit 2618

/Yuwen Pan/
Primary Examiner, Art Unit 2618